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09/360,103	07/23/1999	MICHAEL N. GUREVICH	007532000500	3674

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EXAMINER

NGUYEN BA, HOANG VU A

ART UNIT	PAPER NUMBER
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2122

12

DATE MAILED: 08/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

PR4

Office Action Summary

Application No.

09/360,103

Applicant(s)

GUREVICH ET AL.

Examiner

Hoang-Vu A Nguyen-Ba

Art Unit

2122

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 June 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) See Continuation Sheet is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5,7-21,23-37,39-41,49-53,55-69,71-85,87-89,145-149,151-165,167-181 and 183-185 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6 & 7. 6) ☐ Other: _____

Continuation of Disposition of Claims: Claims pending in the application are 1-5,7-21,23-37,39-41,49-53,55-69,71-85,87-89,145-149,151-165,167-181 and 183-185.

DETAILED ACTION

1. This action is responsive to amendment filed June 19, 2003.
2. Per Applicants' request, claims 6, 22, 38, 42-48, 54, 70, 86, 90-96, 97-144, 150, 166, 182 and 186-192 have been cancelled. Claims 1-5, 7-21, 23-37, 39-41, 49-53, 55-69, 71-85, 87-89, 145-149, 151-165, 167-181 and 183-185 are currently pending.

Response to Argument(s)

3. The Office acknowledges receipt of a new set of formal drawings filed concurrently with the above-mentioned amendment.
 4. In view of Applicants' cancellation of claims 97-144, the rejection of these claims under 35 U.S.C. § 112, second paragraph is hereby withdrawn.
 5. In light of Applicants' cancellation of 78 claims and persuasive argument against the examiner's objection under 37 CFR 1.75 to the remaining claims as being in improper form because an unreasonable number of claims and ground of multiplicity is applied, the objection to these claims is hereby withdrawn.
 6. Applicant's arguments in response to the rejection of 1-5, 7-21, 23-37, 39-41, 49-53, 55-69, 71-85, 87-89, 145-149, 151-165, 167-181 and 183-185 under 35 U.S.C. § 101 have been fully considered but they are not persuasive.
- Therefore, the rejection of these claims under 35 U.S.C. § 101 is herein maintained and restated below.

Drawings

7. The drawings are objected to because Figures 2 and 3 should be designated by a legend such as – Prior Art – because only that which is old is illustrated. See MPEP § 608.02(g).

Correction is required.

Claim Rejections – 35 USC § 101

8. 35 U.S.C. § 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

9. The invention as disclosed in claims 1 and 49 are directed to non-statutory subject matter. While the claims are in the technological arts, they are not limited to “a practical application of an abstract idea which produced a useful, concrete, and tangible result.” State Street Bank & Trust v. Signature Financial Group, Inc., 149 F.3d 1368, 1375 n. 9 (Fed. Cir. 1998).

Specifically, the claims are directed to a method for developing an object-oriented computer program that provides externalization of an object in the program. This method comprises including code within a program for providing in memory at runtime a description of an object based on its one or more attributes. This method of including a description of an object in the program can be interpreted to be instruction code or software program per se. Applicants fail to disclose that these instruction code are tangibly embodied and executed by a piece of hardware and that their functions have practical applications which produce useful, concrete, and tangible results under the State Street Formulation.

On this basis, claims 1 and 49 are rejected under 35 U.S.C. § 101.

Claims 2-5, 7-21, 23-37, 39-41 and 50-53, 55-69, 71-85, 87-89, which depend from claims 1 and 49, respectively, are therefore rejected for the same reason.

Claim Rejections - 35 USC § 112

10. The following is a quotation of the second paragraph of 35 U.S.C. § 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11. Claims 34-37 & 39-41; 82-85 & 87-89; and 178-181 & 183-185 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 34, 82 and 178 are rejected under 35 U.S.C. § 112, second paragraph, as being incomplete for omitting cooperative relationship between steps, such omission amounting to a lack of natural continuation flow between the necessary steps. See MPEP § 2172.01. In claims 34, 82 and 178, the limitation “wherein the description indicates the location in memory of an attribute” does not further limit the limitation “including within the program third program code apart from said object for producing a representation of an attribute of the object in the secondary format” recited in claims 33, 81 and 177, respectively from which claims 34, 82 and 178 depend. Rather, the limitation “wherein the description indicates the location in memory of an attribute” in claims 34, 82 and 178 appears to limit the element “a description of an object based on its one or more attributes” recited in claims 1, 49

and 145, respectively. There is thus a lack of natural flow between claims 34 & 33, 82 & 81 and 178 & 177.

12. Claims 5, 53, 149, 7, 55, 151, 9, 57, 153, 14, 62, 158, 15, 63, 159, 16, 64, 160, 21, 69, 165, 23, 71, 167, 25, 73, 169, 30, 78, 174, 31, 79, 175, 32, 80, 176, 37, 85, 181, 39, 87, 183, 41, 89, and 185 are rejected under 35 U.S.C. § 112, second paragraph as being vague, indefinite and confusing because it is unclear:

whether or not “the attribute” after “a description for” at line 2 of the claims is the attribute of the first object and “the attribute” at line 3 before “is a second object” is the attribute of the second object?

whether or not the attribute is an object itself as it is recited at line 3, i.e., “the attribute is a second object” or is just an attribute of an object? Furthermore, it is unclear how an attribute can be an object?

what is/are “one or more component attributes”?

Thus, for art rejection purposes, the “attribute” is interpreted to mean, *inter alia*, “reference to”. The limitation recited in these claims is interpreted to mean the description of the references that an object (e.g., third) has with a first and second objects.

Claim Rejections – 35 U.S.C. § 102

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

14. Claims 1-2, 8-11, 16-18, 24-27, 32-34, 40-41, 50, 56-59, 64-66, 72-75, 80-82, 88-89, 146, 152-155, 160, 162, 168-171, 177-178, 184-185 are rejected under 35 U.S.C. § 102(a) as being anticipated by U.S. Patent No. 5,864,866 to Henckel et al. (“Henckel”).

Claims 1 and 49

Henckel discloses at least:

including within a program code for providing in memory at runtime a description of an object based on its one or more attributes (see at least Figure 1, items 122-125; Figure 2, “Stream A”, “Stream B”; Figure 4, “Stream A”, “Stream B”; and related discussion in the specification; discussion associated with object reference manager).

Claims 2, 11, 18, 27, 34, 50, 59, 66, 75 and 82

The rejection of the base claim is incorporated. Henckel further discloses *wherein the description indicates the location in memory of an attribute* (see at least 2:1-11; 10:21-45; 11:45-50; 12:32-38).

Claims 8, 56, 24, 72, 40 and 88

The rejection of base claim and intervening claim is incorporated. Henckel further discloses *wherein the description further indicates the type of the attribute* (see at least 3:32-35, 6:31 – 7:23).

Claims 9 and 57

The rejection of base claim 1 and intervening claim 2 is incorporated. Henckel further discloses *wherein the description further indicates a description for the attribute that is*

based on the attribute's one or more component attributes if the attribute is a second object (see at least Figure 3, item Cj and related discussion in the specification).

Claims 10 and 58

The rejection of base claim 1 is incorporated. Henckel further discloses *wherein the description comprises a list including an entry corresponding to an attribute of the object* (see at least Figure 3, "C1... Cj, Cn" and related discussion in the specification; note that "C1, ... Cn" is interpreted to be a list of referenced object attributes).

Claims 16 and 64

The rejection of base claim and intervening claims is incorporated. Henckel further discloses *wherein the entry further indicates a description for the attribute that is based on the attribute's one or more component attributes if the attribute is a second object* (see at least Figure 3, item Cj and related discussion in the specification).

Claims 17 and 65

The rejection of base claim 1 is incorporated. Henckel further discloses *including within the program second program code apart from said object for accessing said description at runtime* (see at least Figure 3, item Cj and related discussion in the specification).

Claims 25 and 73

The rejection of base claim 1 and intervening claims 17-18 is incorporated. Henckel further discloses *wherein the description further indicates a description for the attribute that is based on the attribute's one or more component attributes if the attribute is a second object* (see at least Figure 3, item Cj and related discussion in the specification).

Claims 26 and 74

The rejection of base claim and intervening claim is incorporated. Henckel further discloses *wherein the description comprises a list including an entry corresponding to an attribute of the object* (see at least Figure 3, “C1... Cj, Cn” and related discussion in the specification; note that “C1, ... Cn” is interpreted to be a list of referenced object attributes).

Claims 32 and 80

The rejection of base claim 1 and intervening claims 17, 26-27 is incorporated. Henckel further discloses *wherein the entry further indicates a description for the attribute that is based on the attribute's one or more component attributes if the attribute is a second object* (see at least Figure 3, item Cj and related discussion in the specification).

Claims 33 and 81

The rejection of base claim 1 and intervening claim 17 is incorporated. Henckel further discloses *including within the program third program code apart from said object for producing a representation of an attribute of the object in a secondary format* (see at least Figure 3, item Cj and related discussion in the specification).

Claims 41 and 89

The rejection of base claim 1 and intervening claims 17, 33-34 is incorporated. Henckel further discloses *wherein the description further indicates a description for the attribute that is based on the attribute's one or more component attributes if the attribute is a second object* (see at least Figure 3, item Cj and related discussion in the specification).

Claims 146, 155, 162, 171 and 178

These claims recite a computer system comprising a CPU, memory and carriers of digital signals including program code signals for performing the same steps recited in claim 2. Therefore, the same rejection is applied.

Claims 152 and 184

These claims recite a computer system comprising a CPU, memory and carriers of digital signals including program code signals for performing the same steps recited in claim 8. Therefore, the same rejection is applied.

Claim 153

This claim recites a computer system comprising a CPU, memory and carriers of digital signals including program code signals for performing the same steps recited in claim 9. Therefore, the same rejection is applied.

Claims 154 and 170

These claims recite a computer system comprising a CPU, memory and carriers of digital signals including program code signals for performing the same steps recited in claim 10. Therefore, the same rejection is applied.

Claim 160

This claim recites a computer system comprising a CPU, memory and carriers of digital signals including program code signals for performing the same steps recited in claim 16. Therefore, the same rejection is applied.

Claims 168 and 184

These claims recite a computer system comprising a CPU, memory and carriers of digital signals including program code signals for performing the same steps recited in claim 8. Therefore, the same rejection is applied.

Claim 169

This claim recites a computer system comprising a CPU, memory and carriers of digital signals including program code signals for performing the same steps recited in claim 25. Therefore, the same rejection is applied.

Claim 177

This claim recites a computer system comprising a CPU, memory and carriers of digital signals including program code signals for performing the same steps recited in claim 33. Therefore, the same rejection is applied.

Claim 185

This claim recites a computer system comprising a CPU, memory and carriers of digital signals including program code signals for performing the same steps recited in claim 9. Therefore, the same rejection is applied.

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. Claims 3-5, 7, 12-15, 19-21, 23-25, 28-32, 35-41, 51-53, 55-56, 60-63, 67-69, 71-73, 76-80, 83-85, 87-89, 146-147, 149, 151, 153, 155-160, 162-165, 167-169, 171-176, 178-181, 183-185 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,864,866 to Henckel et al. in view of U.S. Patent No. 6,345,311 to Breslau et al. ("Breslau").

Claims 3, 12, 19, 28, 35, 51, 60, 67, 76 and 83

The rejection of base claim and intervening claim(s) is incorporated. Henckel does not specifically disclose *wherein the description further indicates the amount of space occupied by the attribute*. However, Breslau teaches how to use the memory map to determine the location, to access, to retrieve, to impress state variable values on an object in order to improve the ability to move objects between execution environments despite the heterogeneity thereof (see at least Figures 13-14, 17-18 and related discussion to "Memory Map" in the specification).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine Breslau with Henckel because the addition of Breslau's memory map feature to Henckel would improve Henckel's process of object externalization.

Claims 4, 13, 20, 24, 29, 36, 40, 52, 56, 61, 68, 72, 77, 84 and 88

The rejection of base claim and intervening claims is incorporated. Henckel further discloses *wherein the description further indicates the type of the attribute* (see at least 3:32-35, 6:31 – 7:23).

Claims 5, 53, 7, 55, 14, 62, 15, 63, 21, 69, 23, 71, 25, 73, 30, 78, 31, 79, 32, 80, 37, 85, 39, 87, 41 and 89

The rejection of base claim 1 and intervening claims 2-4 is incorporated. Henckel further discloses *wherein the description further indicates a description for the attribute that is based on the attribute's one or more component attributes if the attribute is a second object* (see at least Figure 3, item Cj and related discussion in the specification).

Claims 146, 155, 162, 171 and 178

These claims recite a computer system comprising a CPU, memory and carriers of digital signals including program code signals for performing the same steps recited in claim 2. Therefore, the same rejection is applied.

Claims 147, 156, 163, 172 and 179

These claims recite a computer system comprising a CPU, memory and carriers of digital signals including program code signals for performing the same steps recited in claim 3. Therefore, the same rejection is applied.

Claims 149, 151, 153, 158, 159, 160, 165, 167, 169, 174, 175, 176, 181, 183 and 185

These claims recite a computer system comprising a CPU, memory and carriers of digital signals including program code signals for performing the same steps recited in claim 5. Therefore, the same rejection is applied.

Claims 157, 164, 168, 173, 180 and 184

These claims recite a computer system comprising a CPU, memory and carriers of digital signals including program code signals for performing the same steps recited in claim 13. Therefore, the same rejection is applied.

Conclusion

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner Antony Nguyen-Ba, whose telephone number is (703) 305-0103. The examiner can normally be reached on Tuesday - Friday from 6:15 – 3:45 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Dam, can be reached at (703) 305-4552.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.

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Hoang-Vu "Antony" Nguyen-Ba

Primary Examiner

August 22, 2003